FACTORS AFFECTING HOMEWORK COMPLETION AMONG STUDENTS

by

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Abstract

This study explored factors affecting student homework completion - individual skills of language, math, and reasoning along with motivation, quality of the assignment, teacher feedback, and the environment in which homework is completed. Ninth grade students at Hudson High School were surveyed to identify which factors were the most prevalent in why students did not complete homework. In addition to the survey, during one unit of the semester, students received “adjusted assignments”, that is, shorter, more streamlined homework assignments as well as more classroom time to work individually or with other students in order to see if this type of working environment and assignments led to a higher percentage of students completing homework. The results from the unit in which students received adjusted assignments and more class time to work saw two of the four classes increase in the amount of homework turned in. Three of the four classes showed an increase in the class test GPA when they worked on the adjusted assignments and the fourth class’ test GPA remained the same. In a survey of student perceptions about homework factors, students disagreed that the factors which focused on skills (language, reasoning, and math), are reasons as to why they do not complete homework. The other four factors that were surveyed were feedback, environment, motivation, and quality of assignment. Students indicated that they did recognize the purpose and benefits of homework and acknowledged they had motivation to complete homework. Survey results show that students feel as though they work better by themselves or with others as long as the work is done during class time and that they do not receive as much written feedback as they would like regarding their mistakes. Finally, students indicated that they would like choices in assignments as well as opportunities for project-based homework.

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Purpose

Since the first year of my teaching career, I have encountered students who do not complete their homework assignments. In the beginning, I believed it was a motivation issue or that the students did not like science. However, after having conversations with these types of students, I began to realize that there was more to it than just whether they liked science or were motivated. While providing additional help for these students during their study halls or after school I began to notice that some of these students were struggling with basic skills that are needed to complete their homework. It was these conversations and additional help with students that created my desire to uncover what barriers or factors are preventing students from completing homework.

Literature Review

Assigning homework in class has been a long standing tradition in education. A study performed by Wilson & Rhodes (2010) showed that 86% of the students in the study agreed that homework reinforces concepts learned in class and 67% reported that homework helps them understand the subject matter better. In this study, 64% of students disagreed with the statement that homework provides little or no purpose. These types of results would make one think that homework completion should not be an issue, and yet it is. So what are the reasons or factors that prevent students from completing their homework?

One reason or factor that may prevent students from completing their homework is intrinsic motivation. A study performed by Deci, Connell, and Ryan (1989) determined that intrinsic motivation is increased when an individual feels independent and when information is provided about their competence in exploring their environment. This indicates that if students feel as though they are learning on their own and receive feedback from their teacher about what they

are doing correctly and what they need to improve upon, they will be more motivated to complete the assignment. This study also showed that when an environment that an individual experiences is not controlled by him/her, individuality and therefore intrinsic motivation decreases. This indicates, again, that if teachers are controlling every little thing that the students are to be doing and do not allow for students to learn on their own and show individuality, students will be less motivated to complete the assignment. Ryan & Deci (2000) found that choice positively impacts intrinsic motivation and people will have an increased intrinsic motivation to complete a task if the task allows them to make personal choices. A study done by Patall, *et al.* (2010) confirmed the findings of Ryan & Deci showing that providing students with choices in homework tasks increases their intrinsic motivation and performance. Providing two or three choices for a project for students to choose from would be one way in which they would have some control and therefore lead to more intrinsic motivation to complete the project. Warton (2001) found that the motivation a student has towards a task is higher if the individual perceives the task as emotionally rewarding and valuable. Thus, if a student perceives a specific homework assignment to be beneficial, enjoys doing the assignment, and feels a sense of accomplishment from doing the assignment, he/she will have increased motivation to complete it.

Although motivation is a major player in a student's completion of homework, there are other factors that may also be contributors. As alluded to earlier by the study performed by Warton (2001), the perceived quality of the homework assignment by the student is a factor in completion of assignments. A quality assignment is one students find beneficial, aiding them in their learning, practicing what has been learned in class with clear directions as to what is to be done. This factor was confirmed by Trautwein and Lütke (2009) which found that the perceived

quality of the assignment has a positive effect on a student completing the assignment. If the students believe the assignment is valuable, it will help them understand content, help them to perform well on exams, and they may show greater interest in the assignment thus leading to the completion of an assignment. Further, Xu (2011) found a positive relationship between homework completion and *interest* in the assignment.

Just as important as motivation, quality, and interest are to completion of homework are *where* and *how* the homework is being completed, that is, the environment. Kackar, *et al.* (2011) indicated that high school students have greater concentration on their homework when they work alone versus working with another individual or group therefore leading to greater effort and completion of assignments. This same study also showed that doing homework at home also led to greater concentration contrasted with lower levels of concentration, effort, and interest when working on homework in class. This study indicates that the environment in which homework is being done has a large impact on the interest, concentration, and effort of a student.

Perhaps the most interesting factor in homework completion regarding what a teacher can do is feedback from teachers pertaining to the homework assignments. Xu (2011) has indicated that teacher feedback has a positive effect on homework completion. Without feedback, a student is in the dark as to knowing whether or not they comprehend the topic being studied. A student may also feel as though the teacher does not place much value in the assignments and thus the student starts placing less value and effort in the assignments. Wilson and Rhodes (2010) found that 44% of the students surveyed indicated that their teachers rarely returned graded homework by the next day. Twenty-seven percent of these students indicated that their teachers sometimes returned graded work within a day or two. Without proper or timely feedback students do not know what they need to work on or what kind of additional help they need.

Understanding of what an assignment is asking a student to do is another aspect of homework completion. Perhaps not as surprising, 43% of the students in the survey by Wilson and Rhodes (2010) indicated that they do not complete their homework because they do not understand it. Understanding how and what to do for the assignment is crucial in the completion of the homework which leads back to the importance of having a quality homework assignment to encourage and motivate students.

The final factor that needs to be considered when it comes to homework completion is probably the most powerful as seen by teachers like me - outside influences. Extra-curricular activities like jobs or clubs and time management skills are a few of these outside influences. In Wilson and Rhodes (2010), 36% of the students said that extra-curricular activities caused them to get home late and be unable to finish their homework. This reported percentage is likely lower than actual due to whether students understood the phrase “extra-curricular activities” to mean only school-sponsored activities and not jobs. Participation in extra-curricular activities leads to a student needing to have time management skills and students may need help in learning those skills. Xu (2011) found that the management of time to do homework is positively related to homework completion.

Statement of the Problem

The intent of homework is to provide students with an opportunity to practice the concepts that they are learning in class. Thus, if done regularly and with effort, the completion of homework should lead the student to performing well as seen by improvement in subsequent quizzes and tests. I began with the assumption that homework is an appropriate means of reinforcing ideas and so investigated why students do not complete their homework. Despite these types of

incentives to coax students to complete homework, like late homework “coupons” or taking off pre- determined percentages for every day that the assignment is late, it is still a battle to get some students to complete their assignments. So the question asked in this study here was, what factors contribute to a student’s noncompliance when it comes to homework completion?

As outlined in the Literature Review, there has been research done on factors for students completing homework assignments, but nothing that necessarily focuses on a specific subject area. Success in science, a core subject in schools, requires a combination of skills and knowledge. Science incorporates math but also interpreting and reasoning skills that are developed in language arts and history classes. Science also has a unique language and the ability to learn, understand, and apply terminology is again learned through language arts courses. Due to science overlapping with the skills learned in other areas, there are numerous sticking points for students and as indicated from previous research, not understanding leads to homework not being completed. Since I have found no other studies that have looked at these types of skills or the specific content area of science, I did this study to look at these possible sticking points, language, math, and reasoning skills, to determine which area seemed to affect students the most regarding completion of homework. In addition, this study looked at the factors of motivation, quality/style of assignments, teacher feedback, and environment to see how these factors affect homework completion.

Research Questions/Hypotheses

In this paper, the first question to be addressed is: Which of the following skills: language, math, or reasoning, will have the greatest effect on a student’s completion of homework? I believed that all three skills would be identified as reasons a student does not complete their homework.

Out of these three, however, I hypothesized that the reasoning skills would be identified by students as being the greatest reason as to why they do not complete their homework based on my experiences with students seeking help from me in the past. Typical questions involved issues of reasoning through a homework problem.

The second question: Which of the following factors- motivation, quality/style assignments, teacher feedback, and environment - do students perceive to be the greatest factor in their completion of homework? I hypothesized that students would identify motivation as the greatest factor in completion of homework. I have had students who struggled with completing homework and have had conversations with them about the reasons why they do not complete their work. Most of these conversations came down to the fact that students were not motivated to complete their homework for various reasons.

The final question that is addressed: Does providing adjusted assignments as well as class time to complete homework increase the amount of homework completed? There are numerous distractions for students outside of school. From television to social network sites to texting, students have numerous reasons not to do their homework or be distracted from their homework. I hypothesized that if I provided shorter, more streamlined homework and work time within my classroom to get started, students would be more apt to complete and turn in their homework assignments.

No matter what the reason or factor that causes a student to be unable to finish a homework assignment, it is important to explore these factors so that educators can develop and assign homework that not only aids in student learning, but takes these factors into consideration so that each student is not only able, but willing to complete the assignment.

Experimental Method

Participants

The participants in this study were ninth grade students in four sections of Pre-Chemistry courses, identified simply as 1, 2, 3, and 4. Pre-chemistry is an introductory chemistry course taken during either the fall or spring semester of the ninth grade year and is required for graduation. The students assigned to each class were non-randomly chosen through a computer scheduling program done at the administrative level. The students participating in this study were between the ages of 14 and 16. Out of a total of 86 students, 44 were males and 42 were females. The ethnic groups and numbers of students identifying with that group were as follows: White – 71 students; Black – 3 students; Hispanic – 6 students; Asian/Pacific – 4 students; Indian – 2 students. There were a total of 9 students whom are identified as being special education students and 2 students who were identified as English language learners. This provided a reasonable match to the general makeup of the full ninth-grade population.

Materials

A letter of consent was necessary for all students participating in the survey. The letter of consent can be found in Appendix A. Prior to the survey being given, the students needed to turn in the letter of consent that their parents or guardians signed indicating that they were able to volunteer for the study. Data collected for this study was done using a survey that contained dichotomous response and Likert response format questions. There were four different types of Likert response rating scales used on the survey. The questions on the survey were inspired by the author based on previous studies performed by Xu (2011) and Wilson & Rhodes (2010). The survey given to students can be seen in Appendix B.

Procedure

In the first part of the study I gathered baseline data using the third unit of the semester. The topic was matter. A baseline for the percentage of homework completed by each class with an assignment considered to be completed if they had earned 90% of the points possible on the assignment. In order to be sure that the classes were somewhat comparable, the class test GPAs were calculated for unit 3. Class 1 had a test GPA of 3.00 ± 0.96, class 2 had a test GPA of 2.59 ± 0.91, class 3 had a test GPA of 3.05 ± 0.92, and class 4 had a test GPA of 2.55 ± 1.1. When I combined the numbers for Class 1&2, the combined test GPA was 2.75 ± 0.94. When I combined Class 3&4, the test GPA was 2.76 ± 1.1. The test groups therefore were statistically identical.

During the fourth unit which focused on atoms, classes 1 and 2 received adjusted assignments as well as more individual or group work time during class to work on the assignments. The adjusted assignments were shorter than the regular assignments that were given to classes 3 and 4. At the end of the fourth unit, the percentage of homework completed was found as well as the number of A's, B's, C's, D's, and F's on the unit test in order to calculate the class test GPA for all classes. The fifth unit focused on the periodic table and was constructed in the same manner as the fourth, except classes 3 and 4 received the adjusted assignments. For each unit, a total of 5 assignments was scored.

The second part of the study was the student survey (Appendix B), in which they identified their own homework practices and perceptions. The survey was given to the students during their Pre-Chemistry class all on the same day, May 25th, 2012. This date was chosen so that the students who are new to the high school environment during the fall semester have had adequate time to

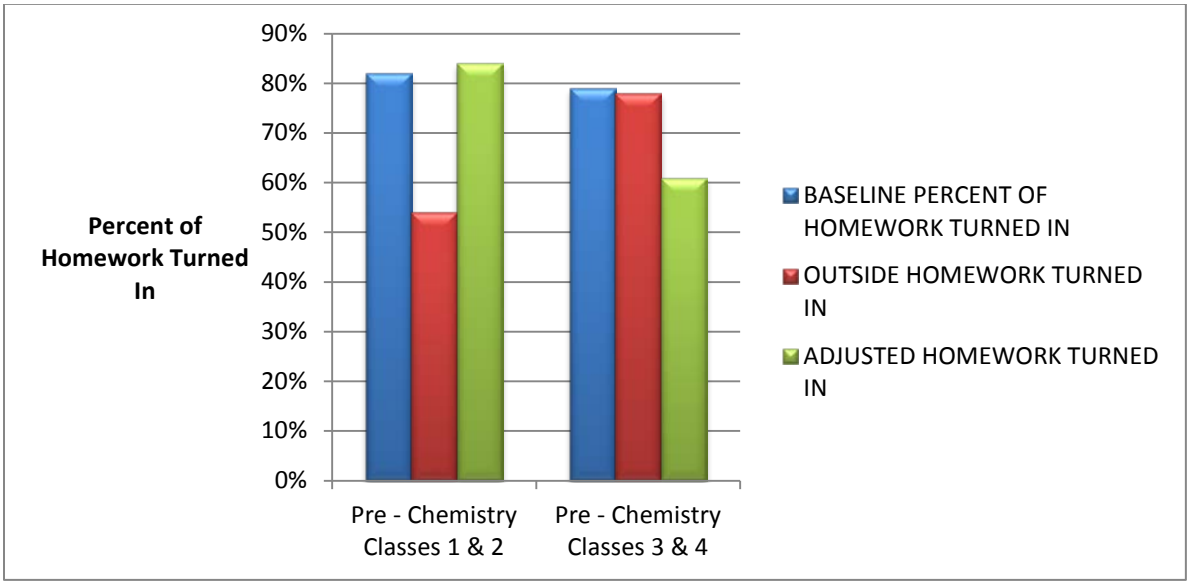
adjust to the high school environment and as well as the expectations for the school work that takes place at the high school level. The survey questions were grouped into the following factors: feedback, environment, motivation, quality of assignments, language, reasoning, and math. The responses to the questions were tallied and the percentages for each response for a question were calculated. The response percentages were calculated for the whole group of students as well as male percentages and female percentages. The male and female percentages were calculated to see if the two groups had different opinions on the factors that prevent them from completing their homework.

Results

The results for the first portion of the study where students received adjusted assignments and class time to work on their assignments are shown in Figure 1. The data for classes 1 and 2 were combined because the two classes were treated the same way in this portion and the data from classes 3 and 4 were also combined for the same reason. Classes 1 and 2 showed a slight increase, 82% to 84%, in the amount of homework turned in when comparing the baseline percentage with the adjusted homework percentage. When comparing the baseline amount of homework completed to homework completed outside of class, there was a decrease from 82% to 54% for classes 1 and 2 and a decrease of 84% to 54% when comparing the amount of adjusted homework completed to the amount of outside homework completed for these classes as well. Classes 3 and 4 had a different unit than classes 1 and 2 and showed a slight decrease, 79% to 78%, when the baseline percentage of homework turned in is compared to the homework competed outside of class. There was, however, a significant decrease from 79% to 61% when comparing the baseline percentage to the adjusted homework turned in and a decrease from 78% to 61% when comparing the amount of homework completed outside of class to the adjusted

homework as well. These results include the two EBD students that were in class 4 and may have affected the results for these classes. More detail about the EBD students and how they may have affected the results can be found in the limitations section.

Figure 1. Homework Completion of Pre – Chemistry Classes. The blue columns represent the percentage of homework turned in during the baseline, third unit. The red and green columns represent the same data, blue is the baseline percent of homework turned in and red is the percent of outside homework turned in. The units in which the data was collected were different. The red columns represent the percentage of homework turned in when completed outside of class and the green columns represent the percentage of adjusted homework turned in by each group.



When looking at the class test GPAs, I combined classes 1&2 and classes 3&4 because they were treated the same and to have a larger set of data to look for trends. Classes 1&2 had a baseline test GPA of 2.75 ± 0.94, an adjusted homework test GPA of 3.31 ± 0.86, and an outside homework test GPA of 2.72 ± 1.2. Classes 3&4 (excluding the two EBD students) had a baseline test GPA of 2.83 ± 1.0, an adjusted homework test GPA of 2.92 ± 1.1, and an outside homework test GPA of 2.85 ± 1.2. Even though the groups are statistically similar to each other and to their own baselines, I still wanted to look at trends for my specific groups. There were two EBD students in class 4 who may have had an effect on the results for that class. The explanation of

their possible impact is detailed in the limitations section. These students showed no improvement in the amount of homework completed when they received adjusted assignments and both students did worse on the unit test when they received the adjusted assignments. These results are not surprising when considering the difficulties they had in class as detailed in the limitations section ahead. It is because of these reasons that I excluded them from classes 3&4 test GPAs. The full results and explanation for the test GPA comparison for all classes and tests can be seen in Appendix C.

The results of the survey for the whole group are shown in Appendix D. When the word “agree” appears in the results section, it means that students identified “agree” or “strongly agree” on the survey as well as when the word “disagree” appears, it means that students identified “disagree” or “strongly disagree” on the survey. The questions associated with the factor of feedback show that 53.3% of students say most of their homework is discussed in class and 29.1% say that all homework is discussed in class. The results for this factor also show that 47.7% of students say that their teachers collect most of their homework and that same percentage of students says that their teachers check most of their homework. A majority of students (66.3%) say that most, if not all of their homework, is graded by their teachers. The final result for this factor shows that 39.5% of students say that only some of their graded homework has comments from the teacher as to how they can improve their understanding or correct their mistakes. The students’ perceptions about these items seem to be fairly accurate when considering my science course. I do not collect every assignment, but I do make sure to discuss each assignment with the students and the students do often receive a grade for most of their assignments as well. Their perception of written feedback from me also seems to be accurate. I do not collect every assignment, and those that I do collect do not give a whole lot of feedback. I write words of encouragement and

correct mistakes when I have time to do so, but most definitely need to make more of an effort to do so more regularly.

As for the factor of environment, 52.4% of students report that they often or routinely find a quiet place to do their homework and 30.2% of students say that they turn off the television while they are doing homework. It also reported by 60.5% of students that they often or routinely work best when they do their homework during class time by themselves and 68.6% of students say that they sometimes or often work best when doing homework during class time with other students. As for the distractions that can occur, 41.9% of students reported that they sometimes have conversations not related to their homework while working, 61.6% of students say that they rarely or sometimes play around with other things while doing homework, and 46.5% of students report that they often or routinely receive and send text messages while doing homework.

The next results are for the factor of motivation. A majority of students, 97.9%, agree that homework helps in understanding what is going on in class. An overwhelming majority of students, 95.4%, agree that doing homework provides opportunities to practice skills from lessons in class. Another 89.6% of students reported that they agreed that doing homework helps to develop a sense of responsibility and 88.4% of students agree that homework helps in learning study skills. A majority of students, 97.7%, agree that doing homework helps in receiving a good grade and 90.7% of students agreed that doing homework brings teacher approval. 91.9% of students reported that they agreed or strongly agreed that homework does bring parental approval. Most students, 72.1%, agreed that doing homework in class gives them opportunities to learn from other students. The final results for motivation show that 66.2% of students disagree that they do not do their homework just because they do not feel like it and 84.9% of students disagree that they do not do their homework because they feel that it has little or no

purpose. In other words, students perceive that they still do homework even if they do not feel like it or feel that it has little or no purpose.

The quality/style of assignments was the next factor probed and students were fairly split on a majority of items. Students were evenly split, 36.0% each agree and disagreeing that having more choices for homework assignments would lead to homework completion. Students were also fairly split when asked if they would complete their homework if it was more project based; 36.0% disagreed and 32.6% agreed. Students were asked if they did not complete their homework on time because the directions were unclear and the results as well were close to one another with 38.4% of students agreeing with this statement and 31.4% of students disagreeing with it. There were a few statements that students commonly agreed upon. Students did agree that they complete homework assignments that reinforce what is being taught in class with 54.7%. A majority of students, 79.1%, indicated that they disagreed that they do not complete homework that contains repetitive questions and 58.1% of students disagreed that they did not complete homework that contained an overwhelming number of questions assigned. In other words, students perceive that they complete homework even if it has repetitive questions or an overwhelming number of questions.

The results for the factors of language were quite clear with 82.6% of students disagreeing with the statement that they do not complete science homework because they do not understand what the question is asking. When asked if they did not do their science homework because they do not understand the vocabulary, the majority of students, 86.0%, disagreed. These results indicate that students do not believe language issues are a barrier.

The results for the factor of reasoning were also quite clear. When asked if they do not complete science homework that asks them to relate one or more concepts, 90.7% of students disagreed. A majority of students also disagreed that they do not complete science homework that asks them to describe a situation using a specific concept with a percentage of 83.7%. Finally, 83.7% of students indicated that they again disagree that they do not complete their science homework that asks them to apply a concept to a situation. Contrary to my hypothesis, students believe they don't have difficulty reasoning.

The final factor that was explored was math and as the previous two factors, the results were quite clear. When asked if they have difficulty with math equations, 83.7% of students disagreed that they struggled with equations. Along with equations, 93.0% of students disagreed that they had difficulty understanding the symbols in the math equations used in science. When students asked if they did not complete science homework that requires math, 91.9% disagreed. The final result for this factor shows that 93.0% of students disagree that they do not complete science homework that asks them to interpret the numbers calculated by math equations. Again, students are quite confident regarding their math abilities in science homework.

The results from taking a look at the responses of the boys versus the girls who participated only produced a few differences. As a whole, the boys and girls responded to the questions quite similarly. Full results for the boys' versus girls' responses can be found in Appendix E but the major highlights are in environment and quality of assignment. Regarding environment, girls had a higher percentage (23.8% of the girls versus the 4.5% of boys) of routinely finding a quiet area to do homework but in a contradictory result 54.8% of girls reported that they often or routinely sent text messages whereas only 38.7% of the boys reported that they often or routinely send/receive texts. Regarding nature or quality of assignment, a larger portion of boys, 38.6%,

agreed that they would complete their homework more often if it was project-based. Only 26.2% of girls agreed with project- based homework. This result is quite surprising in that the stereotype for girls is that they do like to do things, like projects, together and these results indicate that they do not like project-based assignments.

Analysis

Adjusted Homework Factor

When analyzing the results from the adjusted homework it does not seem as though any definitive conclusion can be reached at this time but, again, I did want to consider some trends. Classes 1 and 2 had a slight increase in the amount of homework turned in when they were receiving the adjusted assignments in comparison to their baseline. Classes 3 and 4 had a decrease in the amount of homework completed when the adjusted assignments were provided for their classes during the fifth unit. A possible explanation for this could be the content of the units and the difficulty level. The content of the fifth level was more difficult than what was taught during the fourth unit. The increase in difficulty level could have led to some students not completing their work because they did not understand what they were doing, despite their perceptions that this is not a factor. Another possible explanation for classes 3 and 4 having a decrease in amount of adjusted homework completed is the fact that by the fifth unit, the end of the school year was in sight. Students have a tendency to lose their way a little bit towards the end of the year and have difficulty staying motivated and on task during the school day. One item that was found to be quite interesting was the sharp decline in the amount of outside homework completed by classes 1 and 2. One reason for this may be due to the fact that these two classes had adjusted assignments during the fourth unit and then went back to outside

homework during the fifth unit. The students may have gotten used to completing their homework during class and then when they went back to outside homework, they forgot they had homework to do outside of class. This result may also confirm that students complete their homework more often when given adjusted or shorter assignments and time in class to work. Classes 3 & 4 were different, however, in that they had a higher percentage of students completing their homework outside of class than they did when they had the adjusted assignments and more class time. In order to be able to come to a more definitive conclusion, more data needs to be collected. If I were to conduct this study again, I would gather data for an entire school year. Two units that contained ten assignments total do not provide enough data to make solid conclusions.

When considering the effect of adjusted homework and outside homework on test scores, there was one trend that appeared. Despite the results with the amount of homework completed with adjusted assignments, the test GPAs for both groups (classes 1&2 and classes 3&4) was higher for the adjusted assignments unit. This may be due to the fact that even though students did not necessarily complete their homework, they were able to ask me questions during the work time and work out some of their misunderstandings and be able to perform well on the test. This result may also indicate that some students may not need to complete all homework assigned. Some students may be able to pick up and understand the content without the aid of homework. This would be an area to explore in more depth as it appears to contradict the assumption with which I began - whether homework at all, in class or outside of class, is truly necessary for all students.

Feedback Factor

When analyzing the results from the survey, a few conclusions can be made. When looking at the factor of feedback, students in general say that teachers are discussing, collecting, checking, or grading their homework. The portion of this factor that seems to need the most improvement at least based on the students' perceptions is written comments on the assignments that will aide students in helping them improve or correct mistakes. Since students perceive that there is not much feedback, I need to emphasize this more in my own grading process. With 39.5% of students reporting that only some of their homework has comments and 27.9% of students reporting that about half of their homework has comments, this seems to be the area where students perceive the least amount of feedback. Questions that were not asked, but that I would include if this study were to be repeated, is whether or not the students feel that the feedback they receive from their teachers helps them in their learning, whether that feedback is in the verbal or written format, and whether written or verbal would be the most helpful. Since these types of questions were not asked, it is difficult to say with certainty that providing more written feedback as to how students can improve their understanding will lead to greater homework completion.

Environment Factor

The factor of environment indicates that as a whole, students say they often find themselves a quiet place to complete their homework with girls being more apt to do so than boys are. Despite this however, there still seem to be distractions for students when doing homework outside of class. Only approximately 30% of students turn off the television and also report having conversations not related to their homework while working. A majority of students also report that they will play around with other things while working and will also send or receive text messages while doing homework, again with girls being more apt to do so than boys are. With

all of these distractions going on outside of the classroom, it is not surprising that a majority of students said that they work best when doing homework *during class* either by themselves or with other students. This would seem to indicate that most students complete homework during class more so than outside of class. These results would seem to say that teachers should create a positive environment and class time for students to work on homework, and, ironically, stop calling it homework. When taking into account the results from the adjusted homework portion of the study, it did not seem as though having the opportunity to work during class had a positive outcome for some of the classes that participated. The one conclusion that may possibly be made is that teachers should provide some instances where students can work on their homework during class either individually or with other students, allowing them to ask questions and learn from others. In order to make this a more concrete conclusion, a longer study would need to be done as stated earlier.

Motivation Factor

The factor of motivation was the one in which I believed would be the most strongly identified by students as *the* factor in completing their homework. My original thought regarding this factor was that there would be a lack of motivation for students. The results from the survey, however, indicate that most students do indeed perceive they are motivated to complete homework. Students reported that doing homework helps to understand what is going on in class, provides an opportunity to practice what is being taught in class, aids in learning study skills, learn from others, and receive good grades. Students also recognized that completing homework brings both teacher and parental approval. This shows that students either do actually understand the purpose of having homework and the positive things that come from doing homework or want the teacher

approval of saying so. Students did not report a lack of motivation but rather said that they saw its value and purpose.

Quality/Style of Assignments Factor

The quality/style of assignments is the factor where students seem to be the most split. Some students reported that they would complete homework more often if there were assignment options and others said that they would not. Boys indicated that they would be more apt to complete homework if it was more project-based and girls disagreed. Some students agreed that they do not complete homework that has unclear directions and again, others disagreed. What can be taken away from these results is that first, teachers need to be sure all students understand what the assignment or question is asking of them. The other item that can be taken away is that there should be instances where students do get options for an assignment including some where the homework is more project-based to reach those students that like that kind of assignment. Providing these opportunities would engage those portions of students who prefer different types of assignments and would allow them to show their learning in their own way.

Language, Reasoning, and Math Factors

The final three factors that focused on skills were perceived by students as little to no influence as to why students do not complete homework. The students surveyed indicated that the area of language, understanding what the question is asking or the science vocabulary were not reasons as to why they do not complete homework. The same can be said for math. Students reported not having difficulty with math equations, symbols, or interpreting numbers that were calculated. The skill of reasoning was the skill in which I hypothesized as being the skill most influential but students didn't say so. Students disagreed that the reasoning skills that are needed to relate one or

more concepts or describing a situation using a specific concept were an issue when it came to completing their homework. From these results, it is clear that students do not see any of these three skills factors as reasons why they do not complete their homework. When looking at the number of questions that were asked in these areas however, this portion of the survey had the fewest questions. If this survey was given again, I would make sure that more probing questions were directed towards these skills factors since I believe them still to be very influential.

Limitations

There are several experimental limitations to this study that could prevent absolute conclusions from being made. The first limitation is that the environment portion of the study is limited to three units during 9 weeks of a single semester. In order to have a better understanding of whether a positive classroom environment has an impact on homework completion, an entire year's worth or more of data collection would be useful. Another limitation would be the number of students participating in the study. Out of a freshman class of 401 students, only 86 freshmen participated. Attendance is another limitation to the environment study. The district policy for absences is that a student is provided two days for every day a student is absent; i.e. if a student misses one day of school, they get two days to make up work. If a student was absent during the adjusted homework unit, they missed out on the in-class experience. Most students who were absent did complete the assignments, but there were some students who did not. It is in these cases that it is difficult to determine whether or not the student would have completed them if they had received the same environment the other students had. Another limitation to this study is with two of the participants in the study being identified as EBD (Emotionally and Behaviorally Disturbed). In general, students with this type of disorder have difficulty staying on task and struggle with handling their emotions and behaviors appropriately. Despite preferential

seating and an aide in the room, these students often had difficulty using the time that was provided in class and were often a distraction to the other students in the class. There were numerous occasions where the aide had to take them out of the room to work with them somewhere else. These instances may have affected their ability to complete the homework and quite possibly affected their classmates' ability to complete theirs as well. Another limitation to this study is that the survey was given after the units with adjusted assignments. This was originally done because I believed that the end of the year would have allowed the freshmen students enough time to adjust to the high school environment. Having the adjusted assignments before the survey could have affected the students' answers to the questions on the survey. The final limitation to this study is that students were not directed to think only of their Pre-Chemistry class. Without these directions, students may have had other classes in mind while answering the questions on the survey.

The results of this study have allowed me to take a step back and really look at how I am teaching and using homework to teach/reinforce concepts. My goals as a teacher going forward are to provide more written feedback more often, allow the students in my class more time to work with either themselves or others, and provide choices for assignments, being sure to include some project – based assignments as well.

Summary

This study showed that some classes saw an increase in homework completion when given class time with adjusted assignments and all classes showed an increase in class test GPA during the units with adjusted assignments. The study also showed that students do not believe that the skills factors of language, reason, and math are reasons why they do not complete homework. As

for the factors of feedback, motivation, environment, and quality/style of assignment, students indicated they do not receive much written feedback, are motivated with recognizing the purpose and benefits of homework, feel as though they work better individually or with others during class time, and would like opportunities for project-based assignments as well as choices of assignments.

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Appendix A

Letter of Consent

Date: 4/16/12

Dear Parents,

I would like to include your son or daughter in the action research that I am conducting in partial fulfillment of my master's degree of science education. I am researching the reasons or factors that prevent students from completing their homework. I am asking for the permission for your son or daughter to complete a survey designed to investigate these factors so that myself, along with other teachers, may better understand what causes students to not complete their homework. In addition to the survey, I will be looking at whether or not the environment homework is completed has an effect on students. This means for one unit, students will be given altered assignments and will be given time during class to complete their homework. The information gathered from both of these items can be used to improve homework assignments and strategies so that the homework assigned truly benefits all students in their learning. The research will be conducted during their scheduled pre-chemistry class, is voluntary, and completely confidential. Please indicate whether you give permission or not for your son or daughter to participate in the study by checking the corresponding box below. Please note that all students will be completing the assignments/activities. This means that if you give permission to have your son or daughter to participate, they will have data collected on them. If you do not give permission, your son or daughter will still have to complete the assignments/activities, but will not have data collected on them for this project. **Please have your son or daughter return the bottom portion to me by 4/20/12.** Please feel free to contact me with any questions or concerns that you may have.

If you have concerns about how you were treated in this study, please contact: Molly Van Wagner, Interim Director of Grants and Research, 101 North Hall, UW-RF, 715/425-3195.

This project has been approved by the UW-River Falls Institutional Research Board for the Protection of Human Subjects, protocol # H2012-W035.

Thank you for your consideration and support of this study.

Sincerely,

Lisa Watkins

Hudson High School Science Teacher
(715)377-3800 ext. 6520
watkinlc@hudson.k12.wi.us

(Please cut along the black line and turn in the bottom portion to Ms. Watkins and keep the top portion for your records.)

☐ I give permission for _____ to participate in the action research project described above.
(Son or Daughter's Full Name)

☐ I do not give permission for _____ to participate in the action research project described above.
(Son or Daughter's Full Name)

Date: _____

Parent/Guardian's Signature: _____

Student's Signature: _____

Appendix B

Survey of Homework Completion

Directions: Please read each question/statement carefully and then circle the number that corresponds to your response choice. Please be sure to answer all questions and be sure to ask any questions that you may have during the survey.

1. Please circle one of the following: 1 = Male 2 = Female

For question numbers 2 & 3, use the response scale listed below.

1 = 0-1 2 = 1-2 3 = 2-3 4 = 3 or more

2. How many days per week do you spend on homework?
   Circle: 1 2 3 4

3. How many hours per night do you spend on homework?
   Circle: 1 2 3 4

For question numbers 4-8, use the response scale listed below.

1 = None 2 = Some 3 = About half 4 = Most 5 = All

4. How much of your assigned homework is discussed in class?
   Circle: 1 2 3 4 5

5. How much of your assigned homework is collected by teachers?
   Circle: 1 2 3 4 5

6. How much of your assigned homework is checked by teachers?
   Circle: 1 2 3 4 5

7. How much of your assigned homework is graded by teachers?
   Circle: 1 2 3 4 5

8. How much of your graded homework has comments from the teacher as to how you can improve your understanding or correct mistakes?
   Circle: 1 2 3 4 5

For question numbers 9-15, use the response scale listed below.

1 = Never 2 = Rarely 3 = Sometimes 4 = Often 5 = Routinely

9. I find a quiet area to do homework.
   Circle: 1 2 3 4 5

10. I turn off the TV while I am doing homework.

Circle: 1 2 3 4 5

11. I have conversations not related to my homework while I'm working.
    Circle: 1 2 3 4 5

12. I play around with other things while doing my homework.
    Circle: 1 2 3 4 5

13. I receive and send text messages while doing my homework.
    Circle: 1 2 3 4 5

14. I work best when doing homework during class time by myself.
    Circle: 1 2 3 4 5

15. I work best when doing homework during class time with other students.
    Circle: 1 2 3 4 5

For question numbers 16-40, use the response scale listed below.

1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree

16. Doing homework helps you understand what's going on in class.
    Circle: 1 2 3 4

17. Doing homework gives you opportunities to practice skills from lesson in class.
    Circle: 1 2 3 4

18. Doing homework helps you develop a sense of responsibility.
    Circle: 1 2 3 4

19. Doing homework helps you learn study skills.
    Circle: 1 2 3 4

20. Doing homework helps you get a good grade.
    Circle: 1 2 3 4

21. Doing homework brings you teacher approval.
    Circle: 1 2 3 4

22. Doing homework brings you parental approval.
    Circle: 1 2 3 4

23. Doing homework in class gives you opportunities to learn from classmates.
    Circle: 1 2 3 4

24. I don't complete homework because I don't feel like it.
    Circle: 1 2 3 4

25. I don't complete homework because I feel that it has little or no purpose.
    Circle: 1 2 3 4

26. I would complete homework more often if I was given more choices for the assignment.
    Circle: 1 2 3 4

27. I would complete homework more often if it was project based.
    Circle: 1 2 3 4

28. I complete homework assignments that reinforce what is being taught in class.
    Circle: 1 2 3 4

29. I don't complete homework at times because the directions are unclear.
    Circle: 1 2 3 4

30. I don't complete homework that contains repetitive questions.
    Circle: 1 2 3 4

31. I don't complete homework that is overwhelming in the number of questions assigned.
    Circle: 1 2 3 4

32. I don't complete science homework because I don't understand what the question is asking.
    Circle: 1 2 3 4

33. I don't complete science homework because I have difficulty understanding the vocabulary.
    Circle: 1 2 3 4

34. I don't complete science homework that requires me to relate one or more concepts.
    Circle: 1 2 3 4

35. I don't complete science homework that asks me to describe a situation using a specific concept.
    Circle: 1 2 3 4

36. I don't complete science homework that asks me to apply a concept to a situation.
    Circle: 1 2 3 4

37. I have difficulty using math equations.
    Circle: 1 2 3 4

38. I have difficulty understanding the symbols in the math equations used in science.
    Circle: 1 2 3 4

39. I don't complete science homework that requires me to do math.
    Circle: 1 2 3 4

40. I don't complete science homework that asks me to interpret the numbers calculated by math equations.
    Circle: 1 2 3 4

Appendix C

Test GPA Comparisons

Table C1 shows the test GPA results for each class individually. Class 4 has two sets of results, one which includes the two EBD students and one that excludes them. The reasons as to why they were excluded are detailed in the results and limitations sections. Individually, when excluding the EBD students, all four classes show higher class test GPAs during the adjusted assignments unit compared to the baseline test GPAs. Classes 1, 2, and 4 (with and without the EBD students) had lower test GPAs with outside homework when compared to the adjusted homework test GPAs. Class 3 showed an increase in this comparison. These results seem to indicate that adjusted assignments with class time to work may increase a class' test GPA. Table C2 shows the test GPAs for the combined classes; 1&2 and 3&4. When looking at the data in this manner, the same pattern is apparent; all classes showed an increase in test GPA when they received adjusted assignments with class time to work.

Table C1.

Test GPA Comparisons for Individual Classes

Class	Baseline GPA	Adjusted Assignment GPA	Outside Homework GPA
1	3.00 ± 0.96	3.28 ± 0.91	2.93 ± 1.1
2	2.59 ± 0.91	3.32 ± 0.84	2.59 ± 1.2
3	3.05 ± 0.92	3.14 ± 0.65	3.24 ± 0.83
4 (with EBD students)	2.55 ± 1.1	2.55 ± 1.4	2.45 ± 1.3
4 (without EBD students)	2.67 ± 1.0	2.74 ± 1.3	2.56 ± 1.3

Table C2.

Test GPA Comparison for Grouped Classes

Classes	Baseline GPA	Adjusted Assignment GPA	Outside Homework GPA
1&2	2.75 ± 0.94	3.31 ± 0.86	2.72 ± 1.2
3&4 (with EBD students)	2.76 ± 1.1	2.80 ± 1.2	2.78 ± 1.2
3&4 (without EBD students)	2.83 ± 1.0	2.92 ± 1.1	2.85 ± 1.2

Appendix D

Survey Responses – Whole Group

Figure D1. Survey Responses for the Factor of Feedback

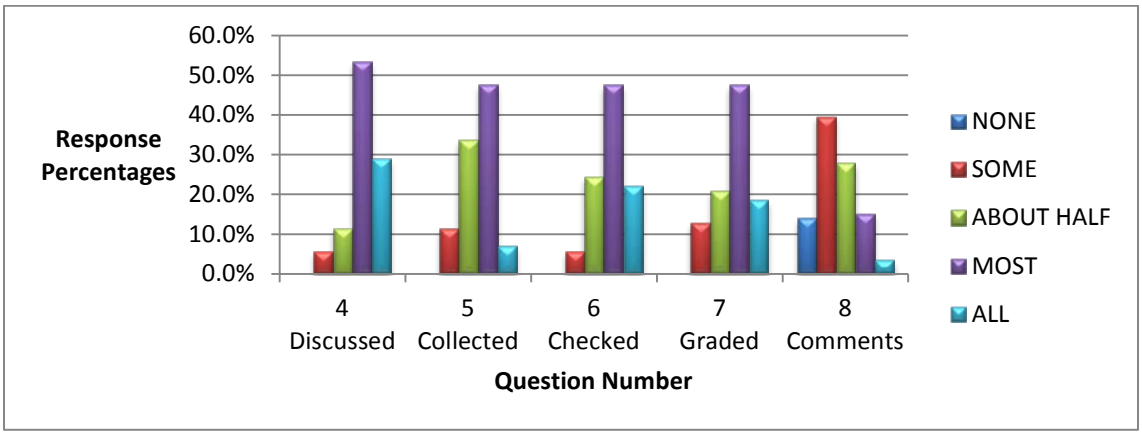


Figure D2. Survey Responses for the Factor of Environment

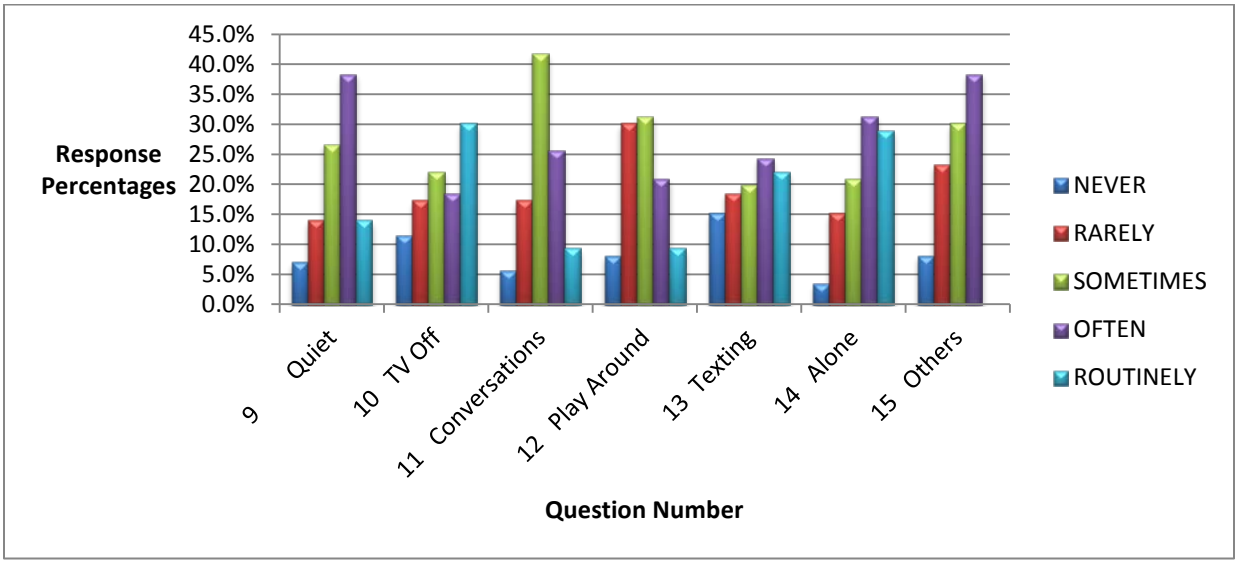


Figure D3. Survey Responses for the Factor of Motivation

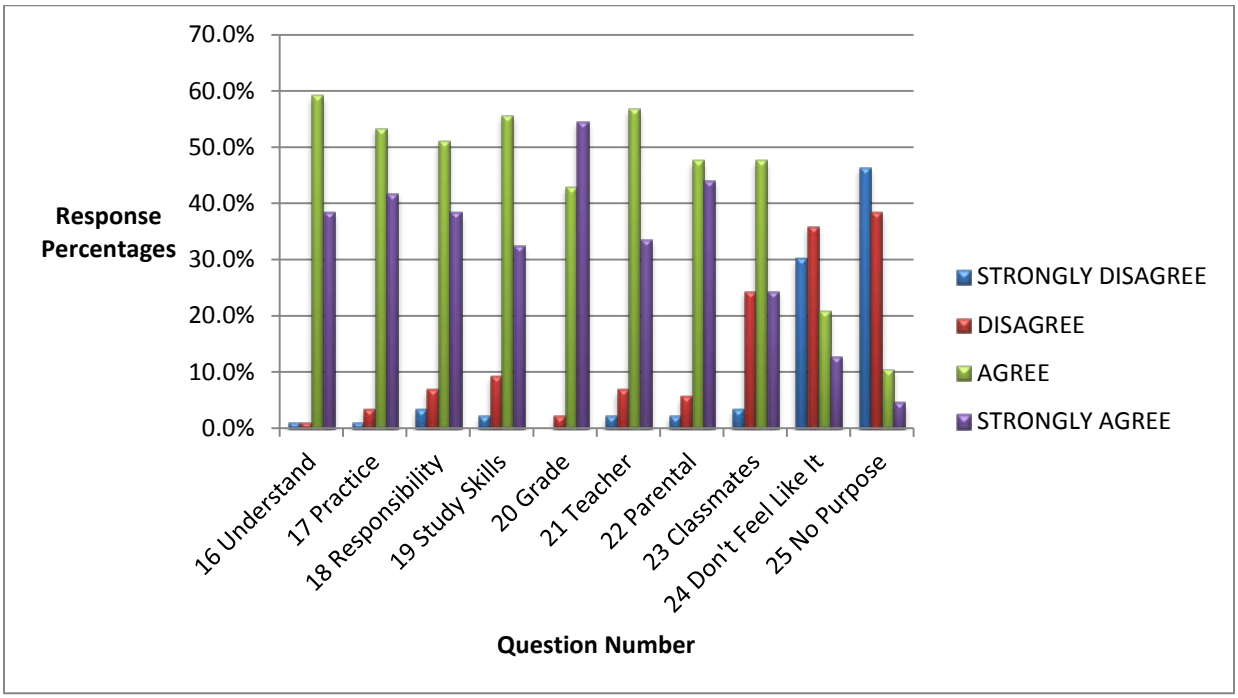


Figure D4. Survey Responses for the Factor of Quality Assignments

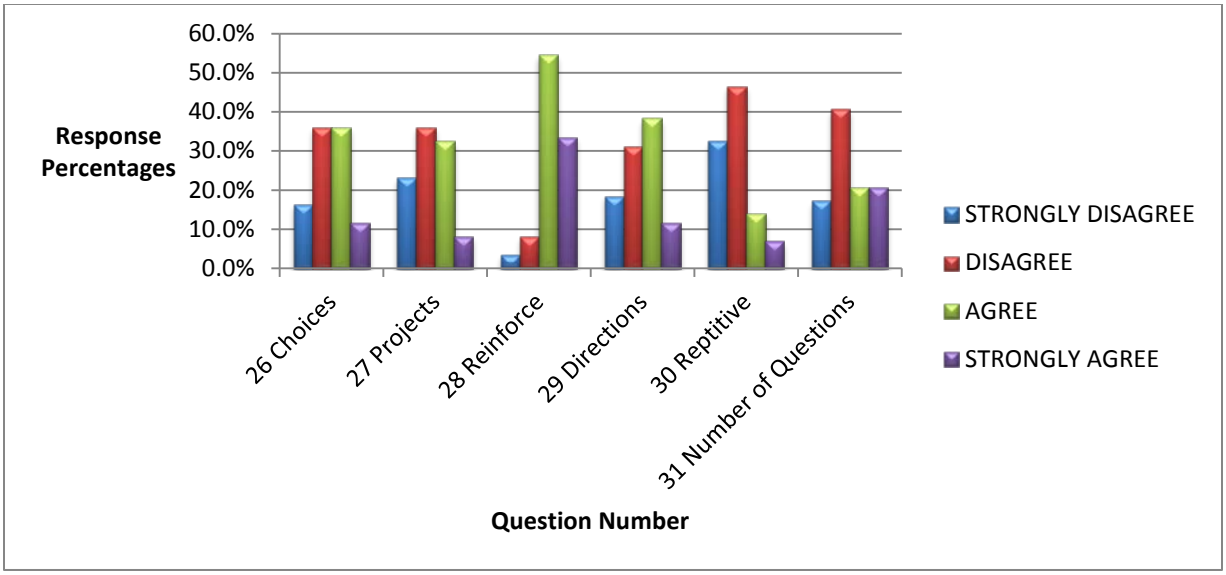


Figure D5. Survey Responses for the Factor of Language

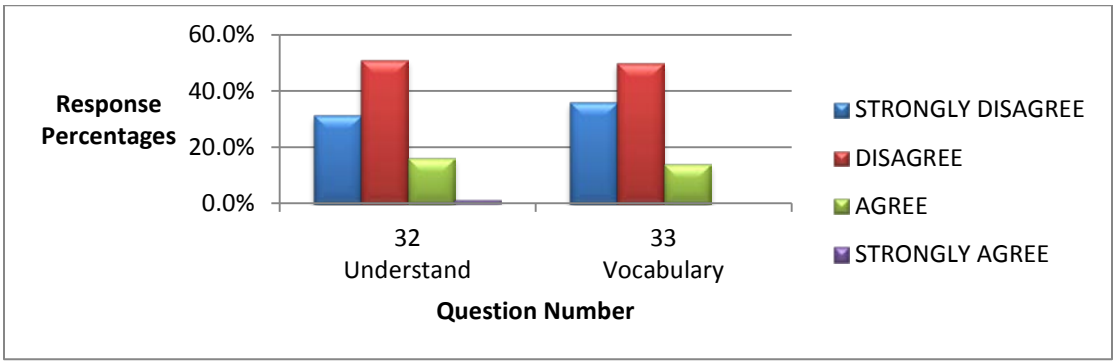


Figure D6. Survey Responses for the Factor of Reasoning

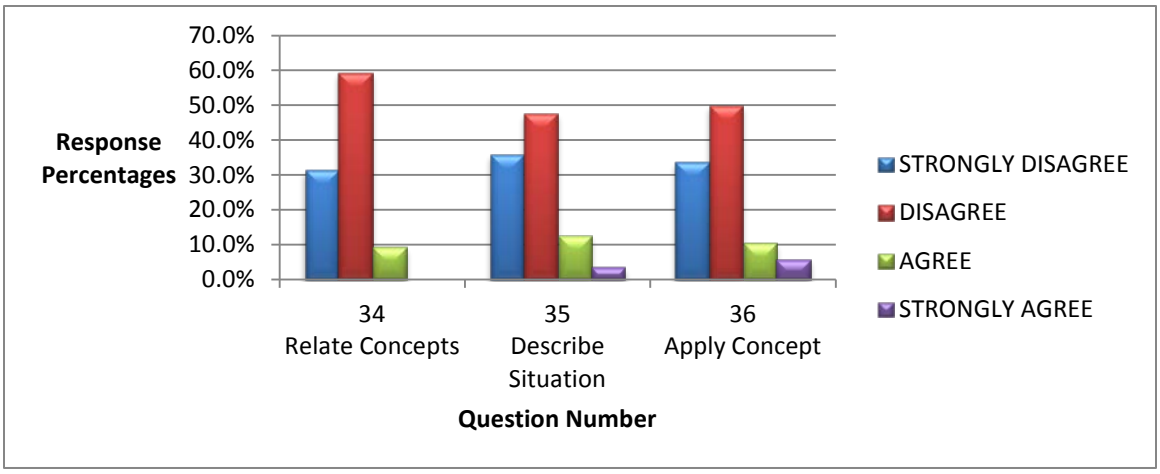
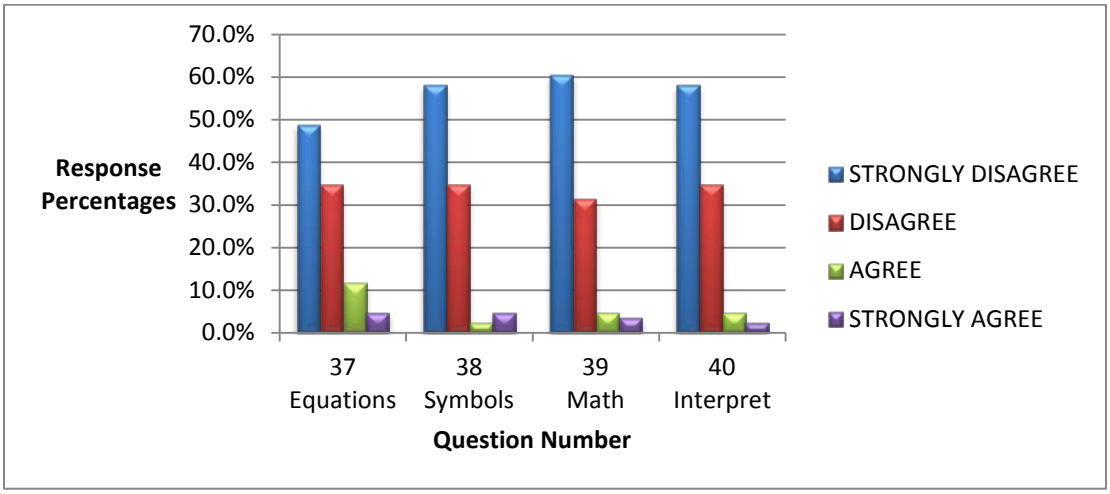


Figure D7. Survey Responses for the Factor of Math



Appendix E

Survey Responses - Boys versus Girls

Figure E1. Feedback – Boys Responses

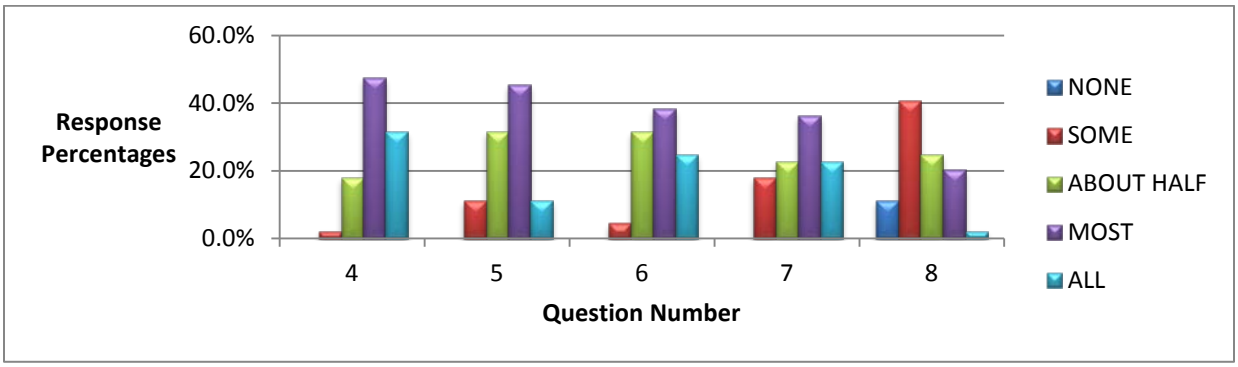


Figure E2. Feedback – Girls Responses

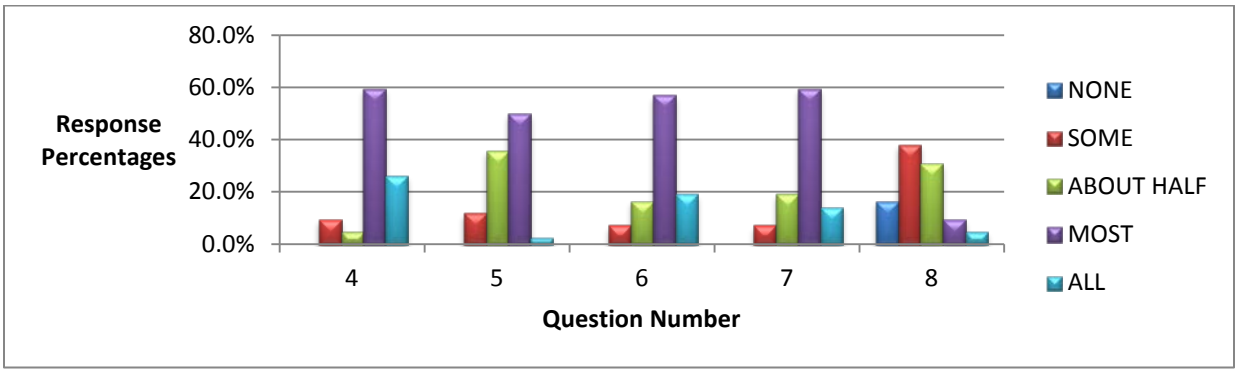


Figure E3. Environment – Boys Responses

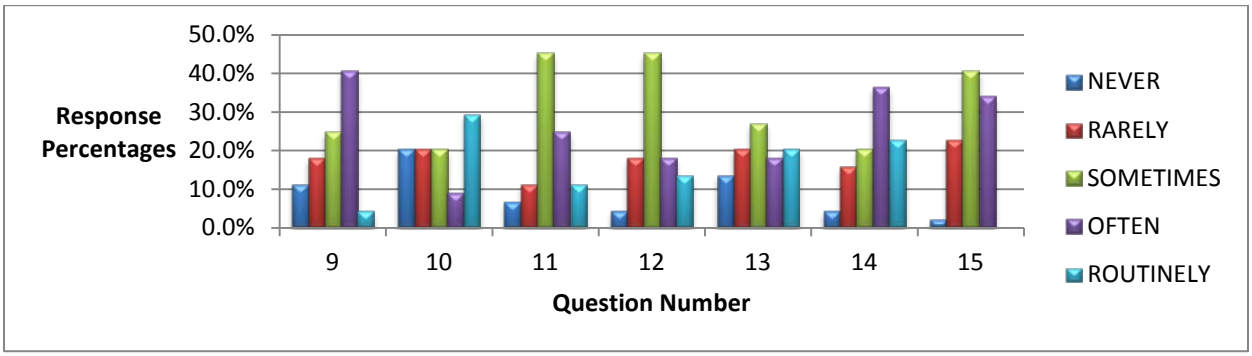


Figure E4. Environment – Girls Responses

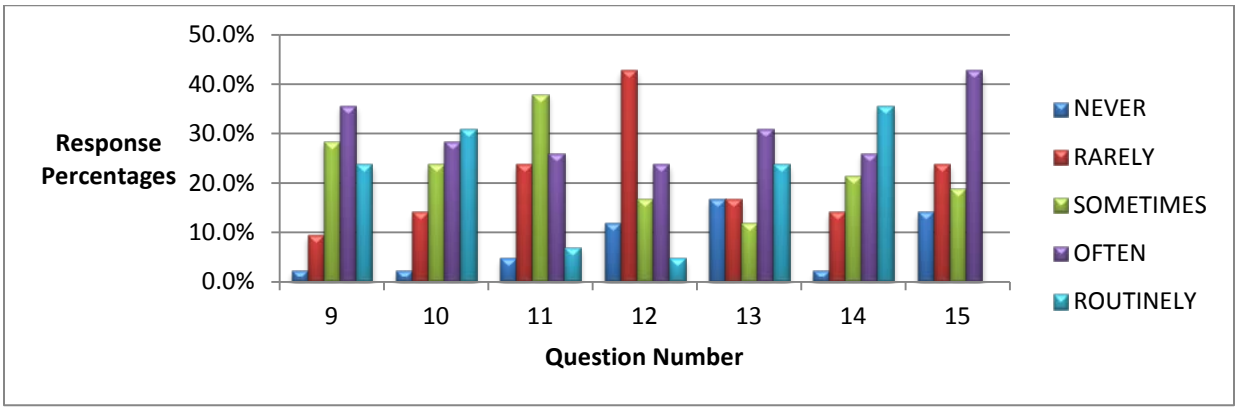


Figure E5. Motivation – Boys Responses

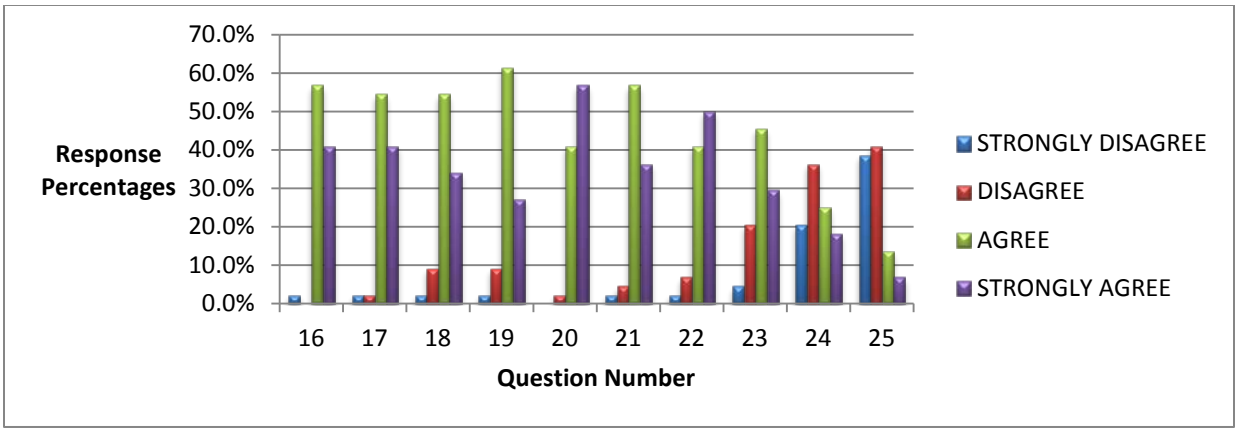


Figure E6. Motivation – Girls Responses

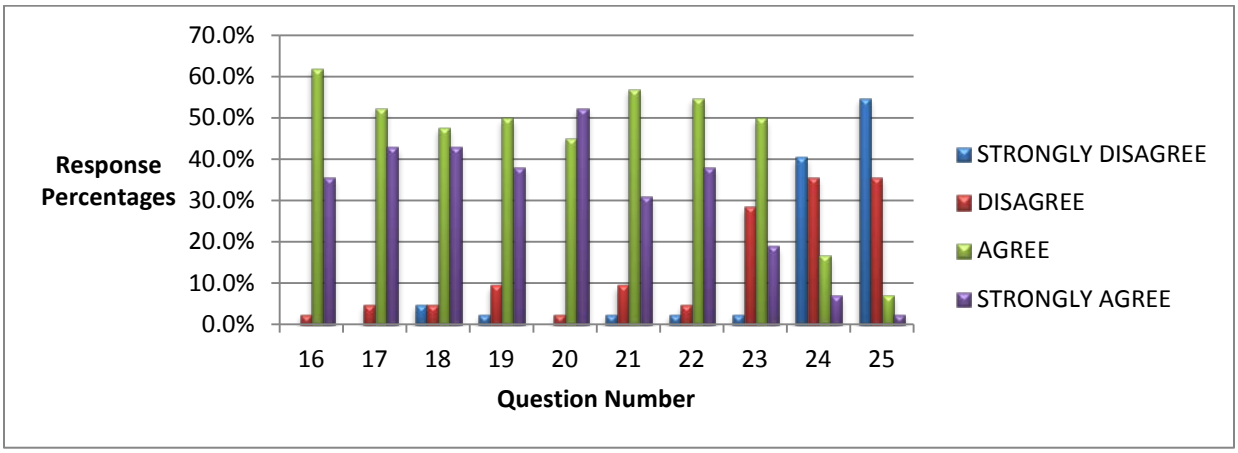


Figure E7. Quality Assignments – Boys Responses

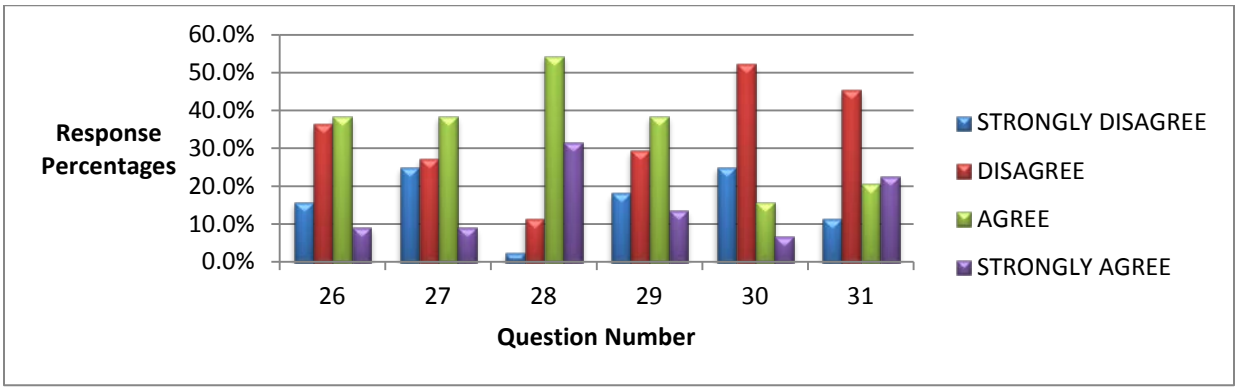


Figure E8. Quality Assignments – Girls Responses

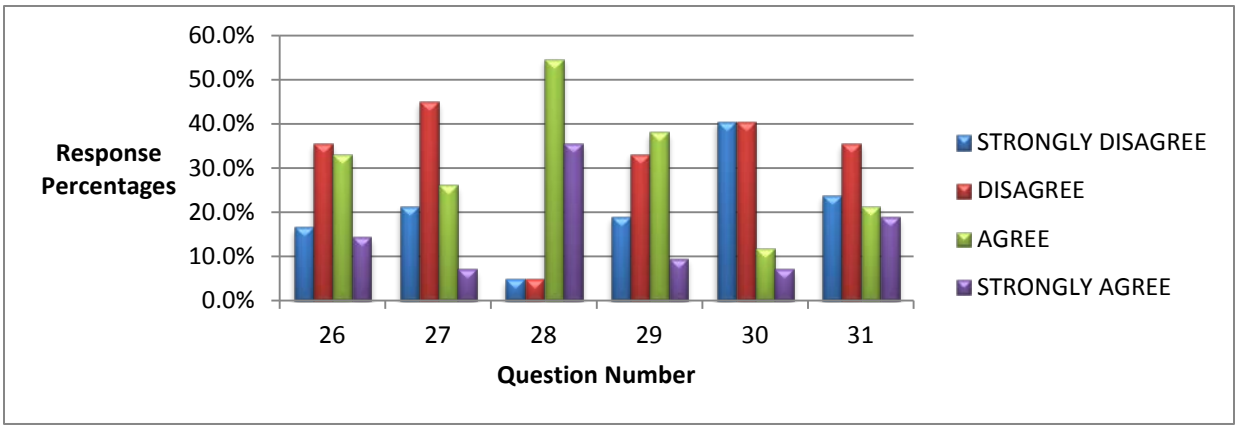


Figure E9. Language – Boys Responses

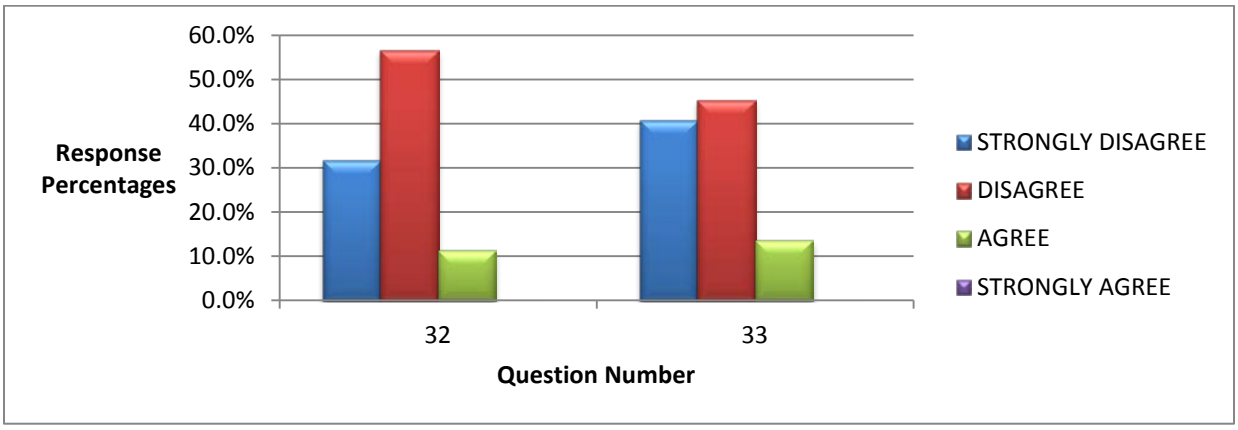


Figure E10. Language – Girls Responses

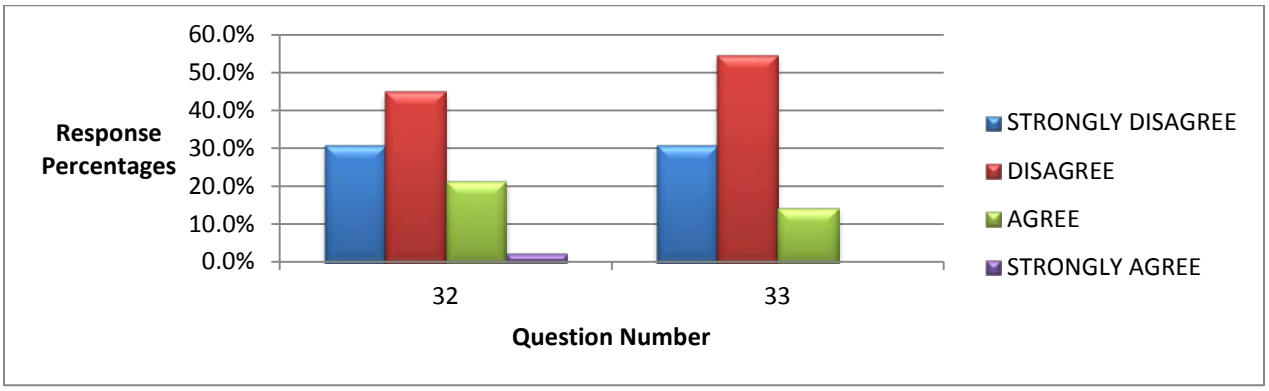


Figure E11. Reasoning – Boys Responses

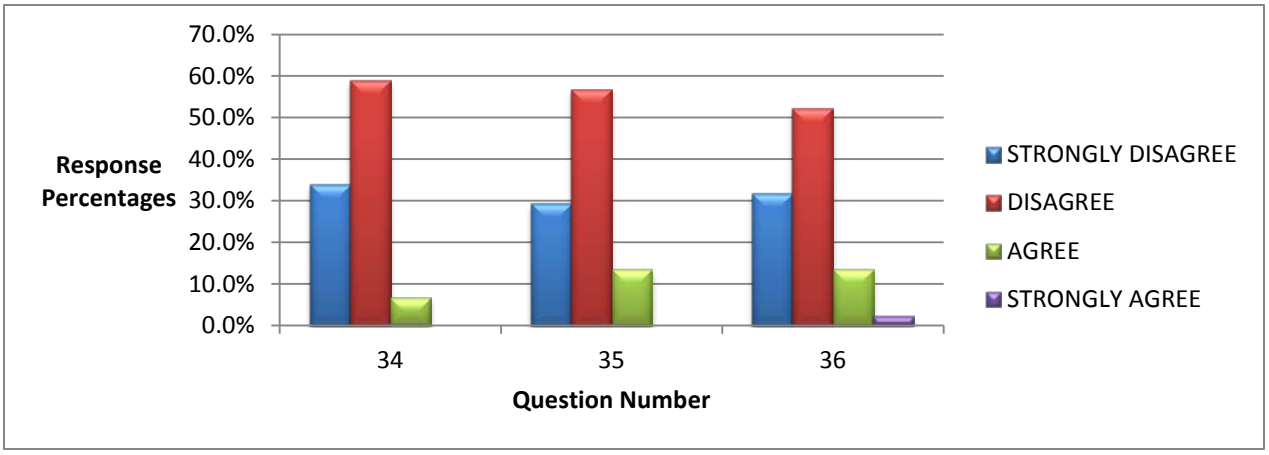


Figure E12. Reasoning – Girls Responses

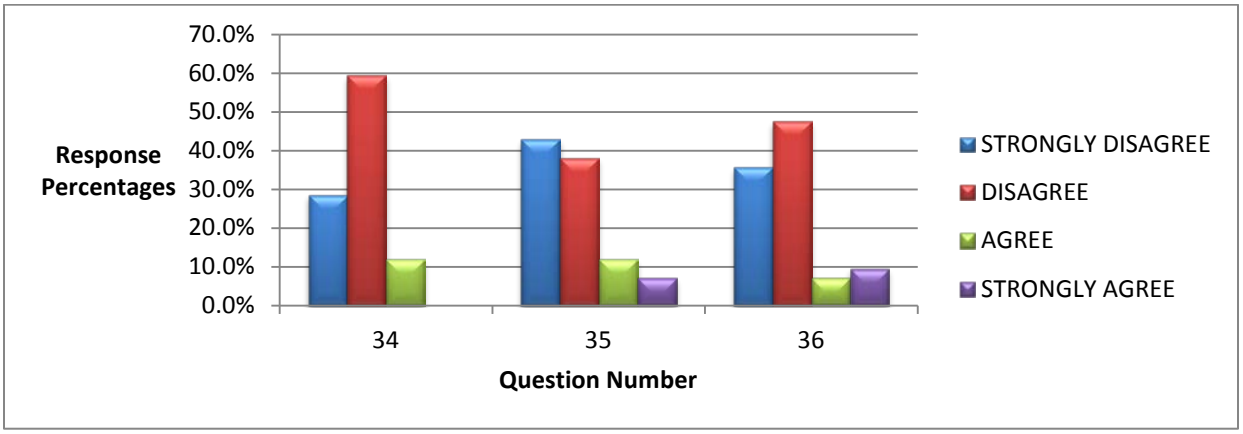


Figure E13. Math – Boys Responses

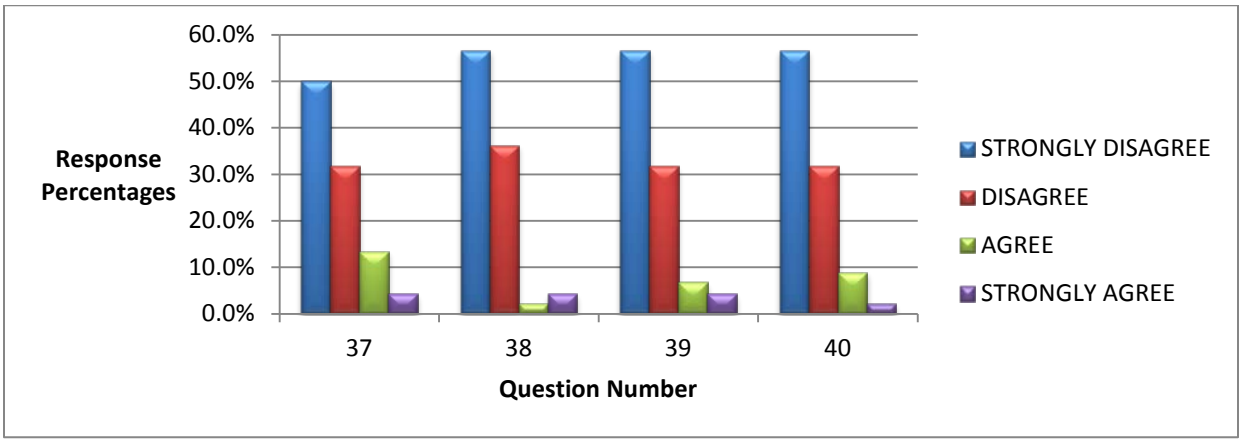


Figure E14. Math – Girls Responses